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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/166,343	10/05/1998	C STUART JOHNSON	5508-51049/M	9027

7590 03/05/2002

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EXAMINER

ABELSON, RONALD B

ART UNIT PAPER NUMBER

2663

DATE MAILED: 03/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/166,343	Applicant(s) JOHNSON ET AL.	
	Examiner Ronald Abelson	Art Unit 2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 1998.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 October 1998 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4,6</u> . | 6) <input type="checkbox"/> Other: |

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Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1-5, 7-10, 13-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Opalka (US 6,259,699).

Regarding claim 13, Opalka teaches a method and apparatus for a switching device for communicating data packets from sending ports to destination ports (fig. 13). The switching device contains a first stage queue for storing packet-related data from a sending port (fig. 13, buffers on left hand side of NxN Memory Connection Buses) and a second stage queue associated with each set of destination ports storing the packet-related data from the first stage queue (fig. 13, buffers on right hand side of NxN Memory Connection Buses).

Regarding claims 1 and 21, in addition to the limitations listed in claim 1, Opalka teaches determining from the packet-related data which destination ports are to receive the data in the first queue (fig. 13, Header Lookup and Forwarding Engine).

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Opalka also teaches using the packet-related data in the second stage queue to complete the communication of the data packet (fig. 13, Shaping and Header Translation, QOS).

Regarding claim 2, it is well known in the art that the Header Lookup function (fig. 13) would contain a list specifying which destination port to transmit the data to. In addition there would have to be a pointer to the memory location of the list.

Regarding claim 3, Opalka teaches sending the packet-related data from the sending port to the first stage queue (fig. 13 Phy, Policing function, Assembly).

Regarding claims 4, 9, 17, and 18, Opalka teaches first and second stage queues includes multiple queues (fig. 8 rcv and xmt queues) and data is stored in the first and second stage queues based on a characteristic of the packet / packet size (col. 7 lines 55 - 67, col. 22 lines 5 - 23).

Regarding claim 5, Opalka teaches the packet characteristic is priority (col. 7 lines 41 - 54).

Regarding claim 7, Opalka teaches the packet characteristic is type of service (QOS, col. 1 lines 5 - 12).

Regarding claim 8, Opalka teaches the packet characteristic is other than unicast or broadcast (QOS, col. 1 lines 5 - 12).

Regarding claim 10, Opalka teaches packet-related data is a data packet (fig. 4: see interfaces).

Regarding claim 14, Opalka teaches a means for determining from the packet-related data which destination ports are to receive the packet-related data in the first stage queue (fig. 13 Header Lookup).

Regarding claim 15, Opalka teaches a means for using the packet-related data in the second stage queue to complete the communication of the data packet (fig. 13, Shaping and Header Translation, QOS).

Regarding claim 16, Opalka teaches address resolution logic (fig. 9, 13, Policing Function).

Regarding claim 19, Opalka teaches shared memory (fig. 13 N By N Memory Connection Buses).

Regarding claim 20, Opalka teaches a crossbar (fig. 9 Crossbar/Memory Switch).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

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the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Opalka as applied to claim 1 above, and further in view of (Miloslavsky US 6,289,094).

Opalka fails to teach processing data based upon the network protocol type.

Miloslavsky teaches processing data based upon the network protocol type (col. 7 line 63 - col. 8 line 14).

Therefore it would have been obvious to one of ordinary skill in the art, having both Opalka and Miloslavsky before him/her and with the teachings [a] as shown by Opalka, a switching device for communicating data packets from sending ports to destination ports, and [b] as shown by Miloslavsky packets may be based upon the network protocol type, to be motivated to modify the system of Opalka to software code to process the incoming packets based upon the network protocol type. This would optimize the system of Opalka by having the data processed in a manner that is best suited for a particular network.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Opalka as applied to claim 1 above, and further in view of (Bonomi US 6,219,352)

Opalka teaches shared memory and a crossbar (fig. 9 Crossbar/Memory Switch) in addition to multicasting (fig. 14 box 14, col. 15 lines 12 - 32).

However, Opalka does not discuss in full detail the implementation of multicasting.

Bonomi teaches multicasting by making copies of the data packet and then forwarding (col. 2 lines 61 - 67).

Therefore it would have been obvious to one of ordinary skill in the art, having both Opalka and Bonomi before him/her and with the teachings [a] as shown by Opalka, a switching device for communicating data packets from sending ports to destination ports, and [b] as shown by Bonomi a technique for multicasting by making copies of the data packet and then forwarding, to be motivated to modify the system of Opalka by having the algorithm make copies of the data packets when multicasting is required. This could be performed in software. This is a proven reliable method for performing multicasting.

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Conclusion

5. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

Caldara (US 5,982,771) and Nattkemper (5,953,318) teach a switching device employing multiple input buffers and multiple output buffers.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (703) 306-5622. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9214 for regular communications and (703) 872-9214 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

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RA
Ronald Abelson
Examiner
Art Unit 2663

RA

February 27, 2002


MELVIN MARCELO
PRIMARY EXAMINER